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Sorgo Department.

The Rural World is the only journal in the United States having a special department devoted to syrop and sugar making from sorgo.

Orange Cane in Iowa.

MR. I. HEDGES: Last winter I sent to you for two and one-half pounds of Early Orange cane seed. Owing to unfavorable weather, I was unable to plant it until about the twentieth of May. I planted in shallow marks and harrowed it in. The weather became dry and warm, but nearly all the seed grew, in fact all grew that got into moist dirt when planted. It was plowed twice and hoed once. Owing to circumstances it became necessary to work it as soon as it would possibly do. The first week in September, found the bulk of it in the milk, and soft dough, but little of it being ripe enough for seed. I at first boiled it to the same degree (according to the eye) as other kinds of cane in other years, and when it became cool I found it much too thick. I planted one acre, and the yield was eighty gallons of the clearest and thickest syrup, that I ever saw. What I had to spare were like hot cakes at sixty cents a gallon, of eleven pounds. We have thirty gallons left, that is nearly solid sugar; had to unhead the barrel to get it. The crop is very light here; many pieces amounted to nothing, and other pieces giving a very light yield. Mine was the best that I know of. The low prices of glucose syrups prevent sorgo syrup from bringing what it ought; still I am offered sixty-five cents for what I have left, and could sell several barrels like mine at that or even more.

E. S. KETCHUM.

Mr. Hedges' Reply: Your samples are first class and speaks well for your efforts, and especially in view of such a ripe cane. It is an additional evidence of the superiority of the Orange cane. I have just visited some crops in Ohio, one of which was well ripe in Sept., and the juice marked 12 degrees B., although grown on a rich dark soil. The other crop was on a thin gravel and clay soil and late planted, yet the juice made a light, pleasant syrup from cane, quite unripe. I found in the yard, a pile of Amber, the stalks quite small and dry as compared to the Orange. It appears that the Orange is best for Ohio, as well as your State. It will do better when more fully acclimated. The lot first referred to, was from seed grown the year before by Ely Guess, Carroll Co., O., whose crop yielded over 300 gallons per acre. Your success in obtaining a stand from the same seed which others claimed to be faulty is an evidence that the Early Orange is reliable.

Letter From L. M. Thayer, of Wis.

MR. I. A. HEDGES: I send you by express, two samples of Amber cane syrup. Last year was our first attempt at the business. We use a Madison four horse mill for grinding and a Cook pan for evaporating. Owing to some cause or other much of the cane seed planted last spring failed to come up. That, with the dry weather has made the cane crop rather below the average; although we had some that yielded well; 226 gallons to the acre. We had a very hard wind about three weeks before cane was ready to cut, which blew it down so that it was very bad cutting and next, impossible to strip. Therefore we worked our crop with the leaves on, of which No. 1 is a sample, juice tested 10° B. It worked good in the evaporator, but was the darkest syrup we made this season, we made in all over 1,500 gallons. We worked up three other lots with the leaves on, which made a syrup of much lighter color and very good flavor. No. 2 is about the average color and density of most of the syrup made by us this fall. It was worked up October 10, from cane that was very tall, large round, stripped and in fine condition. There was just one-third of an acre in the piece, a great many hills missed, many with only one or two stalks in a hill. Cane weighed 9,400 lbs. Tops were cut off about 15 inches long and weighed 1,274, making a total weight of the $\frac{1}{3}$ of an acre of 5 tons 674 lbs., besides the leaves. The yield of syrup was 76 gallons or 226 gallons per acre. Juice tested, 9° B. The average test of juice this season was 8° B. We used lime but not enough to entirely neutralize the acid, settled the juice, using three tanks holding 90 gallons each, drawing the juice from the top.

I do not write this for publication as I am not used to writing for the press, but you can do as you see fit about it; but please refer by letter or through the RURAL WORLD as to quality, &c., of samples sent and oblige.

L. M. THAYER, Kenosha Co., Wis.

The samples are fine and may serve as finger-boards (when your yield is considered) as pointing to a source of wealth that, if carefully followed, will make this country more independent. Your sample No. 1 is quite as pleasant

as No. 2, and either would be more pleasant had you used a little more lime, although for culinary purposes it is better as it is. If it should be kept until mid-summer, it will be likely to become tart, but I am sorry to say that no such goods as you have made will survive the winters, "the lickings it will get" will certainly use it up. Who was it in your state who planted in the fall, and had good results? I would be pleased to hear from him, with dates and method. I have suggested that when the same field is to be planted, that there should be a three-furrow ridge turned between the old rows and the seeding in the ridge, leaving the old stubble untouched. It may be well to roll after planting lest the winter winds may drift away the dirt from the seed, and thus disturb the coming crop. Now, should this planting not come in the spring, the replanting is easily done, as the plowing is already finished. A harrow may precede the planter if it appears necessary. Every farmer must know the importance of removing his seed tufts completely as soon as possible after cane harvest, not only on account of the value of the seed for stock, &c., but in order to have his land clear of volunteer cane the next summer.

I. A. HEDGES.

Sorgo in Texas.

I. A. HEDGES: Since I have been on a farm, I have taken an active interest in sorgo, and have not failed for sixteen years to make a good lot of syrup. My notion is that sorgo will finally yield as fine syrup and sugar as ribbon cane. I have a Victor mill and fine copper pan, 4x12 feet, and I make choice syrup. I filter through clay, and keep pan, mill and everything clean. I sent to you last spring and got five pounds of Early Orange seed, but did not plant it, owing to the drought. I shall next year plant twenty acres of Early Orange. Amber, Honduras and African sorgo grow to perfection here. I have often made 200 gallons per acre, and sorgo machinery would be in great demand, if farmers were only induced to plant it; but cotton is king, and the producers of it grow poorer yearly. A neighbor of mine and myself are the only farmers here that plant cane. I take the RURAL WORLD and am much pleased with the Sorgo Department.

W. B.

Sorgo Manufacture on a Large Scale.

Being somewhat interested in the manufacture of sorgo on a large scale, we recently made a visit to Kansas to see what was being done, says H. Culbertson in an exchange.

Our first stopping place was at Sterling, 253 miles west of Kansas City, on the Atchison, Topeka & Santa Fe railroad. There we found two establishments, one of them costing nearly \$10,000, the other about \$35,000—the latter being built for a sugar outfit as well as syrup.

The first factory was making about 2,000 gallons per day while the cane was in good condition. They had a severe frost on the 14th and 16th, which had damaged the cane, and the warm dry winds were drying it up so that they could not get near that per day. The crushers were run by a forty horse power engine. The defecation and boiling is all done by steam. They were using two tubular boilers five feet in diameter and sixteen feet long. The fuel was refuse cane that had been dried after it came from the crushers. The crushers were made at Madison, Wisconsin. The rolls were 16 inches in diameter and 30 inches long.

One item that is worth considerable to beginners on a large scale, this firm gained at the expense of over 3,000 gallons of syrup. That is where large quantities of syrup are made and run into a large tank, it must be cool before it goes in or it will burn from its own heat. They run the syrup from the evaporator through a trough twelve inches wide for nearly 40 feet, and supposed that would cool it sufficiently. But the burning of nearly \$2,000 worth of good syrup was the result. They improved on this plan by running the syrup from the evaporator into a tank in which were about 200 feet of gas pipe through which all the cold water used was pumped. This cooled it down quickly so that it could be run into large tanks with safety. The establishment was

put up this season. The farmers to encourage the putting up of such an outfit raised the sorghum and sold it to the manufacturers at from \$1.25 to \$1.50 per ton for unstripped cane, according to quality. The cane was yielding from six to twelve tons per acre. The manufacturers were getting ten gallons and upward of syrup per ton. The farmers were not generally satisfied with this price, though they had agreed to take it to encourage capital to locate among them. They will doubtless get more the coming year. None of the cane is stripped for these large mills. Some of the farmers had dumping racks for hauling the cane. They would put on from 2,500 to 3,000 pounds per load and would unload in less than two minutes. One man and a team where they had to draw but a short distance, could deliver at the mill about ten tons per day. This factory expected to work up about 1,500 acres of cane.

The sugar establishment located at this place, was built by southern planters and also operated by experts in the southern or ribbon cane.

Heading the outfit of machinery is a giant crusher with rolls 30 inches in diameter and $\frac{1}{4}$ feet long. To see a bed of cane 4 feet wide and 8 to 10 inches deep going in between these massive rolls and come out between two rolls less than an one-eighth of an inch apart, looks some like business, especially when the mill is run with a 150 horse power engine, with a fly wheel near 30 feet in diameter.

The engine and mill weigh 96,000 lbs. They boil in copper evaporators by means of steam.

They have four settling tanks in which they allow the juice to stand four hours. Then it is drawn into the defecators, of which there are four.

Lime is added until about all the natural acid of the juice is destroyed, and when settled the juice looks as clear as water.

When it has settled sufficiently in the defecators, it is drawn into the evaporator where it is boiled to 25 degrees Baumé and then finished in the vacuum pan. The syrup boils in the vacuum pan at about 140 degrees, more or less, as the operator desires. Boiling at this low temperature does not darken the syrup as much as open pan boiling.

The capacity of this outfit in good cane is over 2,000 gallons per day. They were making splendid syrup, that ought to sell for more than the best glucose syrup, if quality was considered, but I suppose the fact that it was made from sorgo would prevent any such prices.

This establishment was built partly for making sugar, but they had not all the necessary outfit for making it, hence had not tried to make any. The men in charge did not seem to think sugar could be had in paying quantities.

From Sterling we went to Dundee about 225 miles west of Kansas City.

Here the whole outfit cost over \$45,000. It was owned by Kansas men. The superintendent is an expert in southern cane and sugar refining of over 20 years experience. The quality of syrup that they were producing was evidence that he understood his business.

He was feeling quite encouraged over the sorgo prospects and thought there was something in the business. They were prepared for making sugar except that they had not quite enough water to run the vacuum pan for making sugar, hence had not tried it. He expressed himself as well satisfied with tests in his laboratory. He had a polariscope and other necessities for doing his work in the most scientific manner. The machinery of this establishment is much the same as the previous one, except that they had not a large masher.

They had some of the machinery necessary for filtering the syrup through bone black; but as bone black is a scarce article this year, they could not get it.

Our next visit was at Larned, 309 miles west of Kansas City. The factory here was operated last year. It was built at a cost of \$15,000. The owner built for getting sugar from the sorghum. They did not commence until late last season and did not have good results in sugar making the first year.

They got some sugar but at too great a cost to be profitable. They only got about one half per gallon of syrup, and the syrup was almost worthless after the sugar was swung out.

The present season they have met with no better results in sugar making, though they had a man from the south to operate the business.

Their cane this year is of very poor quality. The summer was dry and about the time the cane was ripening they had a rain that wet the ground down 18 inches.

This caused a great many suckers to grow so that where there was one stalk at the bottom there were three or four at the top. According to our ideas of the matter we should not expect to find sugar in such cane.

We had intended visiting another works at Ellsworth, on the K. P. R. R.,

but learned that they had not commenced operations yet and hence did not go. The impression left on my mind after seeing these works and their operations was that for the more expensive ones they need careful management to make them a financial success. For instance we will take the most expensive ones and say that they average a cost of \$40,000 each. Then as money is worth 10 per cent, the interest would be \$4,000 per year. The wear and tear amounts to considerable and the investment to be a profitable one should be returned in say ten years, which would require \$4,000 profit each year.

Take the interest, wear and tear and investment, it will amount to \$8,500 per year at least. Suppose the working season is but 30 full days, which is about all they will get this year, on account of commencing late. This then would require a product per day to make 10 per cent on the money, saying nothing about running expenses, equal to a little over \$280 which if we call it worth 20 cts. per gallon to manufacture would require a daily product in gallons of 1400, which were more than they were averaging. Besides this it took from 40 to 50 men per day to operate them working periods of 12 hours each.

This showing of course will be quite different if they commence as soon as they might, and make the working season 50 days, when it would only require to meet the expenses as here stated 850 gallons per day at 20 cts. per gallon, the amount made above this would pay running expenses and still have some left, for increasing the profits above 10 per cent. These establishments will doubtless do better than the first figuring on account of getting cane very cheap this year, and making an article that will sell readily at a good price.

Sugar-Making in New Jersey.

New Jersey has gone into the raising of sugarcane, and will succeed, as she does in everything that she fairly undertakes. Cape May is the banner county. Over eighty farmers have planted sorghum there, one of them to the extent of 140 acres. They have been stimulated by the enterprise of John Hilgert's Sons, of Philadelphia, who have, at an outlay of upward of \$50,000, erected the necessary buildings at Rio Grande, on the West Jersey Railroad, a few miles north of Cape May City, and placed in them the most approved machinery for the conversion of the cane into sugar. To still further to induce the farmers in the locality to grow the cane, the firm have offered premiums of \$150 for the best ten acres, \$100 for the second best, and \$50 for the best five acres. They will also pay \$2 per ton for the cane delivered at the works or the nearest railroad station; the State gives another dollar, and there is between 50 cents and a dollar's worth of seed in every ton. Experienced farmers in Cape May county say that the average yearly return of the products of a farm is not more than \$15 per acre, but with the sorghum cane they believe the return will be nearly double. This is a practical way of testing the capacity of the State to start new processes in agriculture, and of improving the value of farm land in South Jersey. There are many thousands of acres lying idle that should be growing something for the benefit of the owner and the credit of the commonwealth.—Newark Advertiser.

Early Amber in Vermont.—"On the 24th of May, Early Amber cane seed was planted; soil, heavy loam; fertilizer spread broadcast; ground marked off and fertilized each hill; cut the cane September 15, before it ripened, and fed green to cows. For this purpose it seems well adapted. The cane yields more to the acre than sweet corn and relished nearly as well by the animals. I do not think its cultivation for sugar or syrup could be made profitable in our soil and climate."—R. J. Flint, Greenville, Vt.

At Baldwin, Kan., a sorghum mill has been erected this season, and its owner, last spring, furnished the farmers in this vicinity with sorghum seed to plant, and now they are selling the crop to a manufacturer of syrup. He pays the farmers at the rate of \$1.75 a ton for cane, or allows them six gallons of syrup. One farmer planted 12 acres in sorghum and has raised a fine crop. It averages 12 tons to the acre, and he has contracted his syrup to other parties for 40c. a gallon and has the barrels furnished him.—Farmers Review.

The Sugar Crop.

From all over the state we have the most gratifying accounts in regard to the Early Amber cane crop. The absence of hard frosts before the maturity of the cane affords the farmers ample time to work it up in good condition. The yield of syrup this season is greatly in excess per acre over that of last year. We notice that its value in most of the markets of the state is from forty to fifty cents per gallon. When we consider that we are in our infancy in cane-growing we cannot estimate the wealth in store for our farmers in this product in future years. We are pretty sure that it will be found one of the most profitable of our many Minnesota industries. The sugar cane product grows better and better each year.—Minn. Farmers Union.

Adulterated Sugar.

The following simple test to discover when sugar has been adulterated with glucose was, in a recent interview, given to a reporter of the Chicago Tribune by a Chicago grocer. There is no reason why anybody could not detect the fraud at once: "Take a handful of the mixture and drop it into a glass of cold water; stir it a few minutes and you will notice that the cane sugar is entirely dissolved, leaving the glucose undissolved at the bottom of the glass in the form of a white, sticky substance not at all unlike starch in looks, and quite bitter to the taste. It won't do to use hot water in your test, however, for the whole thing will dissolve. The test is so simple that any house-keeper can make it, and there is no reason for anybody being deceived after discovering the fraud, unless he or she chooses to be."

Agricultural.

Seeding Land to Grass.

Probably nine tenths of the farmers of the United States sow all their grass seed in the Spring, and usually can give no better reason than that they have always done so, and their fathers before them. Many of them do not know that any other season will answer for seeding. On the majority of farms, in this latitude, August and September are better than spring, as a good crop of hay may be obtained the following season, whether the grass seed be sown alone, or with wheat or rye. I have sown grass seed with wheat in early September, on land not subject to heaving, and taken a good crop of each the following season. Clover seed will necessarily have to be sown in the spring, as the young plants are liable to winter-kill. Where the frost heaves the ground in Winter or Spring, after seeding with or without grain, it pays to roll the whole field with a heavy roller, first sowing the clover seed. If the plants stand firm and well the smoothing harrow may be substituted for the roller. The roller, or harrow, should be used as early in Spring as the surface becomes dry enough to crumble. In many cases it is good policy to sow grass seed alone. For instance, one has a "run out" meadow, wishing to keep it in grass, &c., plow down the sod as early in spring as possible to work it well, apply a good surface dressing of manure, harrowing it in well, making a fine seed bed, and on this sow the varieties of grass and clover seed desired. Usually a fair crop of hay may be made from the land the same season, and a better one the season following. Lands may thus be seeded in early fall to good advantage. For instance, take any sward land that hardly pays the expense of mowing it, and plow it in August and treat it as above, sowing it immediately to grasses, including clover, which will become well rooted before winter sets in, and a good crop of hay may be reasonably expected the next season. Any other land than sward may be thus seeded, if done in August (provided it be sufficiently fertile), and produce a good crop of hay the following season.—W. H. W., in Country Gentleman.

The great failure of the corn crop throughout the western States, says the Rocky Mountain Husbandman, is said to have caused a wonderful decline in the price of beef. Feeding steers are said to be \$12 per head lower than usual, which, if it be true, will seriously affect the Montana drive. In fact, since but few of our Montana drovers have yet shipped, it is probable that the bulk of them will be held over, unless the price improves, which seems improbable, since there is no show for crops to come out and corn to get any cheaper. The fall off in the price of marketable beef must be only a temporary decline, for the same cause—the scarcity of corn—that would make feeding steers go down would make fatted beef go up. Anyhow, we may look for good prices next spring; and, in fact, from January on, as the present supply will begin to give out about that time, and as pork will also be scarce and high beef will necessarily be up. Viewing things in this light, we think it would be well for Montana drovers to procure hay in the vicinity of the N. P. terminus and feed through to spring. Their herds, turned out now, will get in good fix by winter, and may be kept up and improving through the winter with plenty of hay, and will come out in the spring in good fix, or may be marketed to good advantage in January by slaughtering before shipping. The only thing that prevents this being the best mode of marketing for Montana cattle-growers at large is the fact that the railroad is as yet too far away. When it reaches the foot of the mountains we may expect to see slaughter houses for the purpose of preparing Montana beef for market established. But as this is some time in the future, we may naturally expect to see the present decline in the east depress the markets to some extent there.

"Rusticus" cities, in The Farming World, a number of instances where apples have been found to keep much better with brighter skin and more juiciness and flavor in humid atmosphere than in rooms or cellars where the dryness of the air gradually induces shrivelling, especially with open coated Russets, etc. It is common to find apples covered by moist fallen leaves in the orchard in superior condition, and the old plan of burying apples kept them as fresh and sound as when put in, none decaying unless decay had been provided for by prior exposure or maltreatment. A cellar in Woodstock, containing a spring, was noted for supplying the fairest and best Russets, Greenings, Baldwins, etc., to be bought in the neighborhood. The apples were kept in open barrels standing on timbers over the water. Next dark, damp cellars gave the other best choice. In Russia apples are said to be stored in water like cranberries, but this may apply only to certain kinds. That favorite apple in the north, the Fameuse, has been proved to keep eminently well, soaking all winter in water. A canal boat loaded with them sank and was frozen in before it could be raised. When this was done in the spring, the apples, which would not have kept longer than January in the air, had preserved perfectly under water, and were the admiration of the Montreal market. This is a fall apple in the latitude of New York city, and does not develop the high character attributed to it two or three degrees further north.

Try new kinds of wheat on your soil. Do not be afraid to experiment with other wheat than you have been growing. An acre will suffice for an experiment, and then if satisfactory, it will be safe to sow more extensively. "Be sure you're right then go ahead."

A Denver paper says that enough alfalfa has been sold in that state this year to seed 10,000 acres which next year will give an increase of 60,000 tons of hay worth \$1,250,000, estimating the yield at six tons an acre. On some farms near Denver it has produced eight or nine tons.

Joseph Harris says he can make lands poor by growing clover and selling it; or we can make them rich by growing clover and feeding it out on the farm. Drain where needed, cultivate thoroughly so as to develop the latent plant food in the soil, and then grow clover to take up and organize this plant food. This is how to make land rich by growing clover. Draining and cultivating furnishes food for clover, and the clover takes it up and prepares it in the best shape for other crops. The clover does not create plant food, but merely saves it.

A Farmer in the Iowa Homestead estimates that Indiana is short at least 4,000,000 bushels, Illinois, 60,000,000 bushels, and Iowa at least 4,000,000 bushels, Illinois, 60,000,000 bushels and Iowa at least 4,000,000 bushels of corn on account of poor seed, and tells how he selects his seed corn. If the corn is picked from the field just after the husks begin to turn a ripe color, and hung up by the husks over a wire or pole, in the kitchen or in the shed, where no bulk grain or anything like it is stored that will heat or sweat it, every kernel of that corn will grow. If picked quite early, just as it begins to dent, the seed seems to be very strong, and will send out vigorous plants. We pick for long, deep kernels, small cobs, ends well covered, and the ear heavy and solid.

The wheat crop never looked better at this season than at present. It is very thick on the ground; with no bare patches, and of a dark green color that shows a vigorous growth. The only fear is that its growth is on account of poor seed, and tells how he selects his seed corn. If the corn is picked from the field just after the husks begin to turn a ripe color, and hung up by the husks over a wire or pole, in the kitchen or in the shed, where no bulk grain or anything like it is stored that will heat or sweat it, every kernel of that corn will grow. If picked quite early, just as it begins to dent, the seed seems to be very strong, and will send out vigorous plants. We pick for long, deep kernels, small cobs, ends well covered, and the ear heavy and solid.

The estimated falling off in the aggregate value of the crops of the country this year over last is not less than \$580,000,000. This is equivalent to a loss of more than \$10 to each man, woman and child in the union. Among the greatest sufferers by the loss will be the stockholders in the through lines of railroad, whose dividends depend largely upon the freights on grain carried to the seaboard. The carrying trade will be greatly reduced over that of other years.

The recent heavy rains throughout the state, insure a good pasturage for the balance of the fall, for stock of every description. This will be a source of a good deal of moment to those who are engaged in the dairy, and it will probably have a tendency to cause a good deal of butter to be made before winter sets in. But the greatest advantage will be to the owners of stock, including both beef and store cattle, as it will add much to the flesh of the stock intended for beef, and it will enable the store cattle to start in at the commencement of winter in good condition, by which they will be wintered with less expense.

"Golden Medical Discovery" (words registered as a trade-mark), cures all humors from the pimple or eruption to great virulent scaling ulcers.

Horticultural.

Among the Vineyards—No. 4.

BY E. A. RIEHL, ALTON, ILL.
Having done with Mr. Rommel's seedlings, we took some notes of other varieties.

Moore's Early—About as early as Hartford; berry larger than Concord; bunch only medium. Mr. Rommel can see nothing desirable in it.

Brighton—A very fine grape, but is not reliable.

Ives' Seedlings show no changes, but remain the same as parents.

Racine—Strong grower, and magnificent foliage; would be splendid for an arbor, but here, as with me, it shows only straggling berries, not a perfect bunch.

Grein's No. 1 showed well.

Grein's No. 2—Bearing heavy crops of fine grapes, and very promising.

Grein's No. 7—White; bunch and berry, medium; very early and productive; strong grower and foliage healthy; said to be not always, but is perfectly sound this year.

Lady Washington—Rots; bunches far inferior to those exhibited by Mr. Rickerts; quality superb, and doubt if it has any value for us at the west.

Backus—Very like Clinton, but richer in quality.

Humboldt—Monch's Seedling, of Louisiana; Amber color. Does not bear well.

Neosho was here full of fruit, and if it will do as well generally, and make as fine wine as is said, must be valuable for that purpose.

Noah was here loose on the bunches, and more sun-burnt than I have seen it anywhere else, and it is no wonder Mr. Rommel does not like it.

Norton showed a good crop, considering the season, and a magnificent growth.

White Norton showed weak foliage, and not desirable, as we have so many better white grapes.

Martha was fine here; a full crop of fine grapes, showing no rot or sun-scald.

Elvira—At its best, and full as the vines could hang, with less cracking and sun-scald than I have seen anywhere else. Mr. Rommel's first love—long may she live in our memories, for the new era she initiated in grape culture, though now eclipsed by a new love that promises a longer and more useful life.

From Mr. Rommel's we went to his brother-in-law's, Mr. Herman Sobbe. There were a good many Catawba that showed considerable rot. There is no use disguising the fact, Catawba's days are numbered in this section, being superseded by a more healthy vine, bearing equally good and as attractive grapes.

Nortons overbore last year, and, as a consequence, had a light crop, but were making a fine growth. Unlike in other places, I am told the demand here for Nortons exceeds the supply.

Martha—Fine here, and made a heavy crop of fair fruit; no sun-scald.

Elvira—Very full, and not so much sun-scald as I have seen elsewhere.

Montefiore was especially fine; bunch and berry larger than Clinton; and though a Taylor Seedling, it has evidently got some Labrusca blood in it, probably Concord.

Wilding was here very fine, with a heavy crop of well filled bunches, and not the least foxiness. It pleased me very much, as I saw it here.

Ives and Concord I think were over-cropped, the trellises being seven or eight feet high, and full of fruit from top to bottom; also the dry weather was hard on them.

White Herman—Ripens here and makes a fine white wine.

I here saw a few seedling peaches on one tree, the only ones I saw growing this year.

Thus ended one of the most pleasant and instructive horticultural trips I ever made.

Keeping Sweet Potatoes.

BY T. V. MUNSON, DENISON, TEXAS.

There are numerous methods of applying almost any principle, and unless the principle is understood, any method recommended is liable to failure, as the essential points may be overlooked by those who know not why certain conditions are required.

For the preservation of the sweet potato, three conditions are essential, namely: 1st. Soundness when stored. 2d. Uniform dryness after storage. 3d. Uniform temperature, above 40 degrees and under 70 degrees.

Stated negatively, the instruction would be:

1st. Do not bruise, or put away for keeping any potato injured in any way, either in digging, by bites of moles, gophers, &c., or by long continued wet weather when growing, which shows itself in a blackened skin.

2d. Do not store potatoes in a moist cellar, or wet earth, or those dug when the ground is cold and wet, or those of an unripe or watery growth.

3d. Do not allow potatoes to become chilled in any way, or to be exposed to a temperature below 40 degrees, either in the ground where growing, or at any time after digging. Neither should the temperature go above 70 degrees. Avoid sudden changes, as hot or cold currents air.

Thorough ventilation, with moderately dry, warm, pure air, is the best means of obtaining first-class keeping

conditions, after storage. In the south, a good, dry cellar is all that is needed. In the north, fire-heat to dry and moderate the air will be necessary.

ILLUSTRATION.

For three years, at Denison, Texas, the writer has kept sweet potatoes in excellent condition, through from October to May, in large quantity with trifling loss, and in smaller lots till August, in a dry, well ventilated cellar.

A bin built of boards, five feet wide, three feet deep, running around against the dry stone wall, laid upon sills four inches thick, with half-inch cracks between bottom boards for ventilation, was filled heaping full of potatoes. During very mild days in winter, thorough ventilation was given by opening the windows and doors of cellar. The crack in bottom of bin, allowed fresh air to enter below; the warmth developed by the mass of potatoes, warmed the air coming in from the bottom, and made it so favorable to rot or fungus growth.

In a bin holding 350 bushels, kept till May 1st, there were not over five bushels of loss, in shriveled and rotten potatoes. It was commonly remarked of these potatoes, when taken to market, that they looked as bright and plump as though just dug. They were very nearly and sweet, and readily brought \$1 to \$1.25 per bushel, while at digging time they would bring but 25 cents.

DIGGING AND STORAGE.

In the fall, when the nights are quite cool and frosts are expected, and but little more growth can possibly be made, select a fair day, when the soil is in good working condition, the drier the better. A team, with plow, straddles the rows and drags away the vines—sometimes collecting a ton under the beam before emptying—then swings off to one side, drops its load and sets in afresh. If there is danger of hard frosts, all the plantation is gone over before plowing out, so that vines will not become frozen, and when thawing out, carry the soiled juices to the potatoes, carrying decay sooner or later. Pickers follow with baskets or boxes, gathering all exposed potatoes. A furrow is then turned out on each side of several rows. Pickers follow again. Another deep, broad furrow is turned from center of each row. Pick again. Another furrow and other picking finish, and far more rapidly than any other method we ever tried. The potatoes are ascertained in three lots as picked. The first lot contains all the sound potatoes of marketable size; the second, all the sound small potatoes for seed; the third, all the injured potatoes for immediate use or stock feed. During picking, the first selection, the second and third lots are laid in small piles along to one side, out of way of team, and afterwards gathered in separate baskets. In gathering, the roots are carefully placed—not thrown—into baskets or boxes, which will sit one above another without bruising, and these are put upon the wagon and drawn to the cellar, and each kind carefully poured—not dumped—in its proper place. The cellar should stand open in day time for several days after storage, if weather is pleasant, so that excessive moisture, driven off by the "sweating" process, can escape.

We find the Southern Queen variety far the most profitable, though not so good in quality as some others.

Report of the Missouri Valley Horticultural Society.

EDITOR RURAL WORLD: The society met at the office of J. K. Cravens, on October 15th, President Evans in the chair.

Minutes read and approved. Committees report.

Hopkins says that berries have grown very finely since the rain, and the prospect is now good. But he finds the ground full of grubs, and fears that they will ruin the crop next year. He asks what will destroy them? Some answer that salt and ashes will do it.

Raspberries have failed to tip, and plants will be scarce next spring. Better purchase what are wanted this fall.

Orchards—All apples should be gathered as soon as possible. Many varieties have begun to rot, on account of the warm, wet weather. Apples are scarce and high, bringing \$1 to \$1.50 per bushel, and apples that we could scarcely sell last year for 15 cents for cider, now bring 50 to 60 cents.

On Vegetables—Many members report as having purchased and sown turnip seed, and it has turned out to be mustard. It has been a very bad thing for us all, as feed is so scarce, and many were depending on them to help them out.

An essay was read by Holsinger on "Cultivation and profit of apples, and size to market," which is forwarded for publication in the RURAL WORLD.

Objections were raised to certain varieties. Some opposed Smith's Cider, saying the tree was not hardy; others saying it was one of the best on their ground. The conclusion is that it is one of the best on suitable land (which is high and rather poor).

Some wanted Jonathan added to the list, and some wanted Fulton in place of Rambo.

The president recommended that we should all plow orchards as late as possible in the fall.

An essay was also read by W. G. Gano on "A list of varieties that are good to eat, and why," which I send you for publication.

The secretary made a report on the exhibit made at St. Louis. The president and secretary both went on Sunday night, and took with them two barrels of apples. They reached the Fair

grounds in the rain and mud on Monday noon, and put them out by night. The next morning we found that they had all been moved and mixed up, and it took half the day to re-arrange them. Of all the places that we have shown, think that they have the poorest place to show fruit in St. Louis. No conveniences, no arrangement, and no assistance is given any one, either in place or materials for making the show, with the exception of Secretary Kalb's favors.

The show of fruit at the Kansas City Fair, or at Bismarck Fair, was ten times as good as that at St. Louis all put together. Our society had more fruit at our Fair than was there altogether. We received the first premium of \$50, and returned home on Wednesday night.

A motion was made that a committee be appointed to revise our apple list, giving to each its season, and then recommend the list to the Kansas and Missouri State Horticultural societies for their adoption. It is known that many fall and winter apples in the east, are summer and fall apples here, and we want a standard for such here in the west.

The motion was carried and the following committee appointed: Hopkins, Holsinger, Evans and Goodman.

Premiums awarded—Best collection of apples, Mr. Gano, \$1; best plate of Ben Davis, Mr. Goodman, 50 cents; best plate of Smith's Cider, Mr. Goodman, 50 cents.

L. A. GOODMAN, Sec.

The Worden Grape.

EDITOR RURAL WORLD: This grape I have grown and fruited for several years, and the more I see of it, the better I like it. It is a seedling of the Concord, and like it in growth and fruit, except that it ripens a little earlier; berries considerably larger, sweet and rich; in quality much superior to Concord, the skin about as tender as its parent. I like it so well I shall plant no more Concord, but Worden instead.

It being as good a grower, as healthy and hardy, and having the advantage of being a little earlier, larger and very much better in quality.

E. A. RIEHL.

Fall Work Among the Flowers.

COL. COLMAN: Very much work that should be attended to in the fall is often neglected. We know that many flower lovers, and especially those who have the care of the household and little children to look after, many times have more than they can possibly do—as this getting ready for winter is no small matter, for so many duties are crowded into a few short weeks. Still we will lose some of our floral pets if they do not receive the needed attention now.

Gladiolus bulbs should be lifted without removing the tops, tied in bundles, the different colors together, and hung up in an airy place. After they have become dry, remove the tops about half an inch from the bulbs, putting them in sacks. They keep best in a cool, dry place, where the temperature never falls as low as the freezing point. Cellars are generally too damp for bulbs, but they will keep well in them if packed in dry sand or sawdust and set up some distance above the floor.

Dahlias should have their tops removed as soon as touched by frost, and a spadeful of earth thrown over the roots, and allowed to remain in the soil until danger of freezing. Lift the roots entire and remove the stalks about two inches from the crown. They should become dry, and will keep better if a trifle wilted before storing in the sawdust or sand for winter.

Tuberose bulbs which have been grown for next year's flowering, should be lifted, the earth removed and all the side shoots broken off and the bulbs thoroughly dried. In order to preserve flowering germs, which will perish in a low temperature, they need to be kept dry and warm. If possible, the temperature should not fall below 60 degrees. A good place for them is, to wrap them in paper and put them in a cigar box; place this box in the bottom of the wood box next the stove. I have a friend who dearly loves flowers, and she kept a half dozen tuberose bulbs after rather a novel fashion. She wrapped them in cotton and put them between the ticks of her bed. So you see her heart was in the enterprise.

In the garden all beds planted with perennials or bulbs should be covered with leaves or half rotted manure and some evergreen boughs or earth thrown on here and there to prevent the wind from blowing the covering about. Roses and shrubs of the tender varieties should have a barrel (from which both heads have been removed) set over them and the space filled with leaves or straw. Pull all stray weeds, give the beds a good coating of manure, and have them deeply spaded so as to be in readiness for spring planting.

Hanging baskets are very pretty winter ornaments, and generally do far better than during the hot, dry weather of summer, when the winds dry them out so quickly. Let them have plenty of light and sun, but do not hang them in a current of air or too near the stove. One of the prettiest plants for the center of a basket is pilea or artichoke plant. The leaves are produced like fern fronds and it is thickly covered with flowers, scarcely larger than a pin head. For climbers I use cobeia, smilax and Madelara; for trailing vines, ohonaa, trandescantia, saxifraga and fragaria. Many varieties of our summer annuals will bloom from seed sown now. Nothing is prettier than a box of sweet alyssum or mignonette. For a letter stamp I will send seed of either one, and as they will bloom in about six weeks from the time the seed is sown, no one need be without a few flowers in the window during the winter.

But few know how easily the Dicentra spectabilis or bleeding heart is forced to bloom in the sitting room during the

winter. This plant matures early, the foliage being all dead a month or more ago. Divide the roots into single eyes and cut away most of the old roots; put one or more eyes in each pot, owing to the sized pot you use. They grow very rapidly, and in a few weeks the flower stems appear, bearing rich pink and red heart-shaped blossoms.

Ainsworth, Ia. J. H. PEARSON.

Strawberries in Michigan.

EDITOR RURAL WORLD: I am well pleased with the RURAL, but am particularly interested in reports of the culture of small fruits, and I regret that the growers of strawberries do not often give the result of their labors. I have raised strawberries for market for the last five years, and have tested most varieties that have been grown sufficiently long to gain a reputation, and find but few varieties from among the thirty-five kinds which I have growing, that are worth cultivating here. I had a yield of 650 bushels from about four acres the past season, and the Monarch of the West, Cumberland Triumph, Kentucky, Chas. Downing (the last mixed with Green Prolific, three to one), furnished the bulk of the crop.

The Monarch, on heavy land, will yield a good crop of fine fruit, and will be enjoyed by those who have given me a trial, notwithstanding the green tips, and they will ship well. The Capt. Jack was nearly ruined by an early growth, but I value it highly. Duchesse is a valuable shipping berry, early and good. The Crescent bears its heavy crop, which supplies the demand until better kinds ripen. The Chas. Downing will not yield sufficient alone, and I mix with Green Prolific and get large quantities of fruit. Cumberland Triumph begins early and supplies the table as long as any, with fine, showy berries.

Of other kinds I do not recall any worth describing, unless it be the Windsor Chief—to say nothing of the cost and labor bestowed on them.

We have had no late drouth in this locality, and I have eight acres of strawberries looking finely.

Heavy rains are of almost daily occurrence, and the corn in shock is in bad condition, while the fodder is almost ruined. Wheat is getting a large growth. All crops, save wheat, have yielded finely. Clover, cut for seed and not gathered, must be badly injured by rain also.

F. D. HILMAN, Tecumseh, Mich., October 18.

What Fruit to Plant; Cultivation, &c.

EDITOR RURAL WORLD: I should plant all kinds that are adapted to this climate, but of course some kinds will prove much more profitable than others.

The matter of profit should not alone be taken into consideration. Nature has created within us such demands for the fruits that are "beautiful and good to eat" that the aesthetic element therein may be gratified with something of the same degree of propriety as our taste for flowers.

Apples will never cease to be our leading fruits, and in a commercial sense, will be profitable or otherwise in proportion as they are managed. But as a sanitary measure I consider it as much a man's duty to furnish his family with this fruit as it is to educate his children.

The needs of the body are as imperative as those of the mind.

Cherries are next in importance, and if I had room in my yard for but one tree, it would be a cherry. Plums I would grow with profit if convenient to devote a separate lot to them, and feed pigs and poultry under the trees as a remedy for the curculio. Pears and peaches I would indulge in for other reasons than profit. From small fruits I should expect to realize greater and more direct returns. Strawberries are too fickle for this climate and I should expect light profits from them unless I was prepared to irrigate. Unquestionably this can be done successfully with windmill or house pumps. Then I would hardly want a better chance for making money than raising strawberries for this market. Blackberries will seldom pay without irrigation. Grapes I would grow liberally for home use, but not for sale unless a better market is offered than we have here. This fruit cannot be raised in this State with profit if sold at less than four cents per pound, while they are sometimes peddled at 1 1/2 and 2 cents.

Currants and gooseberries, I have never found profitable.

Now for the last and best of all. I cannot refrain from becoming enthusiastic on the raspberry. Of all products of the soil this has given me the most clear money. With proper soil, or with under-draining, the money that there is in this crop is only limited by the amount of help that can be secured to pick the berries.

This is the fruit that is adapted to this section, as much so as grapes are to California or oranges to Florida.

Concerning the varieties of fruits, our experience and the opinions of experts should be of course our guide, though here we are at a great disadvantage; for although a man may be well posted on existing varieties, there are new varieties continually coming up to claim attention. Thus a man is never done learning even one subject. We are advised to cultivate the best varieties of fruits, I can hardly agree with this idea at least so far as old and well known varieties are concerned, my experience is, that ten bushels of Ben Davis apples can be produced as easily as one of Bedford, and ten quarts of Ida strawberries will cost no more than one of Sharpless. In which is there the most profit, and which is the best policy to pursue? One exception to this rule: the finest flavored and most hardy raspberry I ever knew (the Turner) is at the same time very productive and correspondingly profitable.

If any are inclined to differ with

some of the above ideas, please remember, that they are based much upon local experience and have some local as well as general application. Of cultivation my advice is simple. Let it be first-class.

Ottumwa, Iowa. O. MOFFET.

The Poultry Yard.

Forcing Winter Laying.

The Poultry World this shows a reader how hens can be made to lay in winter.

This can be done, and we will inform a "Reader" how it may be done to a certain extent. His inquiry is two-fold. He asks "if hens can be made to lay in winter," and "what shall we do to induce them to discount, in cold weather."

It is a difficult thing to "make young hens lay," ordinarily, until they are ready to perform this desirable duty in the natural way. Nature creates the disposition, and in due course of time affords a fowl the ability to discharge its eggs. This follows upon the completion of the formation and maturing of eggs within the hen. And they can not be laid until they are fully formed and matured.

To have laying hens in winter, the first year of their lives, the pullets should be hatched early in the previous spring. Thus they grow to maturity by late fall, and after moulting they will begin to lay, frequently in November, or even in October. Leghorns will commence to lay at five months old, and we have known Brahmas and Cochins, to begin laying at six months.

Generally speaking, however, they do not lay much until they are a month or two older. So, if your pullets hatch out, say in March or April, they will be seven or eight months of age in November, and should then be ready to "lay in winter," naturally, without forcing.

But they commonly do not get to laying at this time, and the reason is that they have not been properly fed with this end in view. Where you find young winter-laying hens, you may be sure they have been taken extra good care of, from the shell upward. But older hens may be put up to this work, by artificial feeding, or by supplying them with highly stimulating or egg-producing food for the same purpose.

Thus, if we take a flock of one and two years old hens, and pen them where we can furnish them with animal and grain food, and the necessary condiments, which go to create egg-meats and shell—away from the ordinary fed poultry—we can quicken them in the laying disposition, and they will commence to discharge their litters a month or six weeks earlier than they would have done, had they been left to take their chances among the flock.

But this forcing is exhaustive. Nature is over-hurried. It is not a healthy way for hens to lay under this stimulating "high pressure." And they soon lay themselves out. We have known hens thus treated to produce enormous sized eggs frequently, and also many soft shelled ones, when being thus pushed. They can be "made to lay," in this way for a time. But it is a brief time only before they "play out," under this hastening process.

We therefore advise those who would have laying fowls in winter-time, to procure pullets that they know are then seven to eight months of age, of any breed.

If they wish to bring their old hens into laying at this period, they must feed them high in advance, keep them warm and dry, and furnish them with plenty of animal food, wheat, buckwheat, and egg-producing food, for this purpose. And so it will be for the flock thus forced—a short life and a prolific one; but you may thus have winter-laying hens.

The Apiary.

See Notes.

The British Bee Journal makes mention of several cases where bees have been stricken with paralysis in the wings, and fears are entertained of the hives to which they belong being badly decimated, as hundreds were lying about the apiary, rendering it impossible to walk about without treading on them. None of the usual causes to which bees are subject or die from are apparent. The bees come out to take their flight, and fall to the ground, and are unable to rise again. The evil appears to be the worst in the morning after a previous day's confinement at home through wet or cold weather.

As the honey season draws to a close care should be taken not to give the bees too much room in the boxes, thereby avoiding too many partially filled sections. As the flow slackens off, take from colonies with more sections than they are likely to finish, and put in place of full sections removed, contracting the room for surplus honey if necessary, so as to have all the sections finished as soon as possible. New beginners are apt to go on adding boxes so long as the flow continues, and at the end of the season have a large number of sections only partially filled which must be kept over until another season, or emptied with the extractor.

The Indiana Farmer gives the following caution and advice: In almost all cases there is an easy remedy for any trouble with the bees, if ascertained this month. If a colony has not sufficient stores, it may now be fed; while, if you wait until later, there is trouble in so doing. Feeding at this season of the year should always be done with caution. For, although bees are not so much disposed to rob now as early in the spring, yet, if a colony be left unguarded, so as to give the robbers a chance, they will clean it out on very short notice. Promptness is the price of successful bee-keeping. Should you discover that anything is wrong with them, make an examination at once, and apply the remedy. Do not wait and think you will fix them some other time, but do it at once.

When bees go into winter quarters and remain quiet they are safe, but should exigencies arise and cause activity, its wearing effect soon becomes apparent in the diminished population. With old and worn bees this diminution is rapid and stocks dwindle until they are comparatively useless; with young

ones the winter vicissitudes will be better resisted, and it is therefore evident that to be prepared for safe wintering the hive should contain a large proportion of young unswarmed bees; and to bring about this desirable condition the income of food should be prolonged artificially, or in other words, as soon as the harvest falls bees should be fed that they may be induced to keep up the breeding propensity in the queen to as late a period as is consistent with safety to the brood.

HOW TO SECURE HEALTH.

It seems strange that any one will suffer from the many derangements brought on by an impure condition of the blood, when SCOVILL'S SASSAPARILLA AND STILLINGIA, or BLOOD AND LIVER SYRUP will restore perfect health to the physical organization. It is indeed a strengthening syrup, pleasant to take and has proven itself to be the BEST BLOOD PURIFIER ever discovered, effectually curing Scrofula, Syphilis, Erysipelas, Malaria, all Nervous disorders and debility, Bilious complaints, and all Diseases indicating an impure condition of the Blood, Liver, Kidneys, Stomach, Skin, etc. It corrects indigestion. A single bottle will prove to you its merits as a health renewer, for it ACTS LIKE A CHARM, especially when the complaint is of an exhaustive nature, having a tendency to lessen the natural vigor of the brain and nervous system.

BAKER'S PAIN PANACEA cures pain in Man and Beast. Use externally and internally and find instant relief.

DR. ROGER'S VEGETABLE WORM SYRUP instantly destroys WORMS and removes the Secretions which cause them.

A Square Meal.

We are sure our readers will thank us for calling their attention to the very handsome advertisement of the Excelsior Manufacturing Co. of St. Louis, as it would be useless for us to try to say anything in favor of their great Charter Oak Cooking Range. The very word suggests the thought of a well cooked meal, followed by easy digestion, vigorous health, and a desire to have and to do plenty of real work; to say nothing of the comfort of a happy, contented household.

41-4 cow

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22-20-cow

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Postmasters
and others are solicited to act as agents for the RURAL WORLD. The price is so low that nearly every farmer will subscribe for it, if his attention is called to its many merits as a farm journal. There is no doubt that every farmer who reads it will get him his worth to him ten times its cost every year. Every friend of good farming should lend his aid to increase its circulation. If \$2 are remitted the RURAL will be sent for one year, and the \$15 worth of books, to such addresses as may be sent. Both need not go to the same person or post-office.

Messrs. Morgan and Cotton of Camargo, Ills., sold to Col. E. C. Moore of Columbia, Mo., at the recent St. Louis Fair, five very fine Shropshire sheep. Boone county has many enterprising live stock men, and we are glad to see choice stock going into that county. The citizens of other counties should follow the example set them by the farmers of Boone.

Missouri pasturage is splendid for November. Never have we seen such a growth of the grasses at this season of the year. No frost yet. Frequent showers and warm weather have put upon the earth a carpet of verdure. Live stock are doing well. If this warm weather continues a few weeks longer, it will do very much to repair the great damage sustained by the drought.

The Mississippi River Improvement Convention was one of the most important meetings ever held in St. Louis. Its main purpose was to concentrate the improvement on the main channel of the river, and to have Congress pass an appropriation bill for its improvement as an independent measure, without having it loaded down with appropriations for a hundred other streams of little national importance. We think the convention was eminently successful in this work, and the grandest results will flow from its action.

The pastures look fresh and green as in spring time. While the growth of the grasses must be watery and not very nutritious, yet the late vegetation is of great benefit to the stock grower. If this warm weather continues a month longer, stock may be considered substantially half through the winter. Stock have been improving rapidly for the past three weeks. There has been no frost up to this writing. Wheat, rye, timothy, and orchard and blue grass that have been sown, have come up and made a good growth. Winter wheat is still being sown, and we think with good prospects for a good crop.

Artesian Well Boring.
EDITOR RURAL WORLD: The board of directors of the Northeast Missouri District Fair, have decided to have an artesian well bored upon their grounds, and would be pleased to have the address of parties engaged in that business. Please give us any information, or the address of any person that you may know, engaged in such business. Would be pleased to have your ideas of the feasibility of that plan of furnishing water for stock on the grounds. Please answer through your valuable paper or by mail, and oblige the board of directors.
R. C. RISK,
Secretary of District Fair,
Williamstown, Mo., October 24.

REMARKS.—We publish your letter, so that any one engaged in the business may address you. We cannot tell how deep you might have to bore to obtain a supply of water, but you can undoubtedly obtain it at some depth. If any artesian wells have been bored in your section, they would furnish a very good criterion, as to the probable depth you would have to bore.

Correspondence.
COL. COLMAN: Please inform us if California barley (for seed) can be obtained in your city—of whom, and at what price.
T. G. SMITH,
Belton, Texas.

REMARKS.—We think it cannot be had in this city or State, or short of California.

COL. COLMAN: Are the Catalpa trees that are quite common about St. Louis, those so highly recommended in many agricultural papers? Would seed from them reproduce the same varieties?
R. S. T.

REPLY.—The Catalpa trees that are found out on Franklin avenue and the St. Charles road, and along many other streets, are not those so highly praised. They are known as the Georgia Catalpa, or the Catalpa Bignonioides, and bloom full ten days later than the Catalpa Speciosa, so highly recommended. Seed from either variety, quite uniformly reproduces itself.

COL. COLMAN: It is many months since we wrote you, and yet we have regularly received and read your richly laden pages in this land of ever-continuing summer, where the sweet blooming Jessamine opens its flowers at night, and

the winds waft its fragrance all around and soothes us to sleep; where the orange trees grow, bloom and bear golden fruit to please the eye and tickle the palate of the eater, and fill the pockets of their owners with money. They begin to bear in from five to seven years old from the seed. Our soil here is rich enough to grow them without other aid than working them in cultivating farm crops. We have plenty of United States land to homestead, &c. The banana does well here.
K. FERGUSON,
Manatee county, Florida.

COL. COLMAN: Will you please inquire through the RURAL WORLD, who has alfalfa grass seed to sell? I want to buy, and I suppose others do, but I have not seen any advertised for sale, and I have been looking for such advertisements too.
H. M. KELLY,
Irving, Ill., October 31.

Our Interests.
For whom do we the farmers of the United States grow so many millions of bushels of grain, so many million pounds of cotton, tobacco, meat and other articles? Surely not for our own consumption. We produce our surplus for the world as every one of ordinary intelligence knows. How do the people of other nations, obtain from us such products as they want? They do it by trading to us such articles as they can make cheaper than we can. In a new country, where land is cheap and fertile, agriculture pays better than manufactures. In the crowded regions of the world, land is very high and mostly worn out, and it costs much more to raise a bushel of grain there than here. Labor, therefore, must be cheaper in these crowded regions than it is here. Articles that are common and cheap there, are naturally traded to us who earnestly desire them. Our grain that is so abundant here, that we waste and even burn it, is exchanged for things precious in our sight, but as abundant and cheap with them as our grain is with us. The American farmer, who lives poorly and in hardship, is surrounded with things that are precious in the sight of people in other lands, who would gladly give him most abundantly the groceries, coffee, tea, fine cloths, carpets, silks, mirrors, furniture and machinery, which are now too high priced to be easily within his reach. Close to us, comparatively, there are regions where these articles are so abundant and cheap as to be despised by even the poor. The most ragged Arab swills freely of coffee whose grains are precious as silver to the American, whose wheat and corn are in turn eagerly desired by the Arab. What a grand institution is commerce, which, for a mere trifle, transports commodities from where they are worthless, to where they are precious boons, making all happy around them!

For ages the genius, the labor and art of man, have been occupied with the question, how to facilitate this commerce—how to make it easier, cheaper, speedier. In fact, the whole question rests on that thing of cheapness. And when the problem has been solved to a large extent, in step a few American money lords and prevail on the American Congress to put a fine, tax or tariff on nearly every article of foreign merchandise brought to our shores—thus declaring on the one hand to the people of the world, "you shall come here with empty ships and buy our products for gold;" and to us, the farming, laboring people of the United States, "if you will have these foreign luxuries, these groceries, carpets, cloths, silks, coffees, this machinery and furniture, you shall pay two or three times more for them."

Man has been guilty in time of many strange, inconsistent and even idiotic acts done with deliberation. He has sold himself, he has enslaved his fellow, he has made war to settle questions easily settled by a few words; rather than have neighbors to buy of his surplus and to aid him in trouble, he has made waste, howling wildernesses; as a savage, he has wasted his time in hunting for shells to use as money; as a civilized, he employs a vast army of able-bodied workers in tearing up the earth for gold, permanently destroying fine agricultural lands, worth more than the gold, in order to get that metal to use in place of the shells; in short, the wastes and burdens he inflicts on himself are infinite—but of all the foolish, inconsistent, destructive acts, this crippling of commerce takes the lead. This just as if the ship carter, having made his ship for speed, had blunted the prow let it sail too fast—as if the horse racer had lamed his horse, or the engineer had raised the grade of his road. When the tariff on coal was less than it is now; a great mine was discovered on the Canadian coast, so situated that the coal could be rolled from the mine right into the vessels. This enabled the shippers to bring it into our ports, pay the fine (tariff), and undersell our own loads of the mines. Forthwith our Congress raised the tariff, so as to keep them out with their cheap coal. Who that has read of the condition of the Pennsylvania miners, who are worked like brute beasts, starved, cheated, abused in every way; who that knows all this, can be swayed by the cry, "protect American industry." Long may it be ere such industries shall be compelled to find footing on our shores.

What are American industries proper? Of all our people and hundreds of millions more, can find profitable, easy,

happy employment for ages yet to come in our fields, forests and waters—producing ten thousand articles essential to the very lives of the poor unfortunate crowded in the narrow streets, lanes and factories of Europe. If factories are needed, let them grow up naturally. Our agricultural capacities have not yet been developed, either in variety or extent, the one-tenth of their ability.

Why then burden the agriculture of the land with such enormous taxes in order to force European manufacturers to come here with their workmen, or to encourage our own capitalists to invest their means in things not needed, while so many necessary things are neglected? Why waste our iron ore, our coal and wood, and tax ourselves to encourage business that will not pay unless supported by legislation? The time is coming when it will pay to open these mines, and to consume this coal and wood. No tariffs will be needed. Henry Clay said the truth when he asked for a tariff of not over 25 per cent., in the year 1832, to last for nine years and be annually reduced 10 per cent., and remarked, "if the farmer cannot stand this, let him come here to complain and we will relieve him." Adding this, "what is the principle on which we ask for this aid? It is because our factories are just starting and unable to stand alone. After the accumulation of capital and skill, they will stand alone, unaided by government, in competition with imported articles. Now, give us time—for nine years—and they will sustain themselves in every branch against foreign competition."

Yet nine years passed, and we had comparative free trade from 1847 till the war began—a period of the greatest prosperity ever known. Then, thirty years after they had received this aid asked for by Mr. Clay—thirty years after he, the great father of American tariffs, had begged for but 25 per cent.—these factory men came into the American Congress amid all the terror, confusion and embarrassment of war, and demanded a tariff of from 80 to 100 per cent., and got it; and from that day to this, they have torn from this outraged people not less than six hundred millions of dollars every year, paid to them for goods that had far better been purchased elsewhere, even at the same price. For a revenue tariff would have paid the debt and at the same time would have enriched our farming population by giving them higher prices for their products. But these billions of dollars, that should have gone to the men who till the soil under a revenue tariff system, have, under a far different one, gone to less than one thousand citizens of New England, Pennsylvania and New York. No wonder that some two dozen ladies at a tea party could boast that the aggregate wealth of their husbands is over five hundred million dollars, as the newspapers are reporting. On the other hand, we can point right here, where this is written, in the very heart of that which the great traveler Taylor declared to be "the largest unbroken body of the most splendid farming land in the world," to thousands of farms being eaten up with eastern mortgages, falling into disrepair because the harvests of these fertile soils do not pay for the cost of producing, in consequence of the price of railway transportation. In short, a part of our toil goes to pay interest to those who have made their fortunes out of us in the past, and the remainder goes to those who are now making fortunes out of us—all done under the workings of this infamous system of protective tariffs—a system that is as much derided and laughed at by scientific men the world over—is as much out of date as the Ptolemaic system of the Rev. Jasper, whose text is, "the sun—it do move."

A most valuable present to any one. Is the fifteen dollars worth of books advertised by us. Send us two dollars and get the RURAL for one year, and the books sent to such person or persons as you may designate. They may go to the same or to different persons or post-offices.

Crops in Callaway Co., Mo.
COL. COLMAN: The season has been very unfavorable in this part of the State. It was so dry in July, August and the greater part of September that our corn was almost a complete failure. Many fields will not make a bushel of sound corn to the acre. Many carloads of corn have been brought into the county at a cost of about seventy five cents per bushel. The hog product will be very small, indeed most of the hogs were taken from the county before they were fattened. We are obliged to buy corn to feed the few hogs that every farmer thinks necessary for his own meat.

The hay crop is not very good and the corn fodder has nearly all been ruined by the constant rains of the past month. Our cows are now very lean; no doubt many of them will give their hides to the tanner before spring. The wheat straw has been very much damaged since it was threshed. Very few of us are able to keep cheerful faces when we wonder what we and our stock are to eat during the coming winter—no corn, no potatoes, no apples and but little else to sell to purchase the things we need.

Wheat sown early looks very well; but there was but little sown before October 1. Some farmers are still sowing at the last of October. We can only hope that winter will delay his coming, and be as mild as possible when he comes. Such seasons should teach us to be better prepared for the future.

CALLAWAY FARMER.
Fulton, Mo., October 31, 1881.

Lafayette County Grange.
EDITOR RURAL WORLD: The County Grange met at Davis Creek hall on Thursday, October 11, 1881. A quorum being present, the grange proceeded to business. Worthy Master Catron stated that Brother Eshbaugh had consented to spend several days in this county, to lecture to the various granges in the county. A committee was appointed consisting of H. C. Chiles, Joe F. Smith, J. M. Armentraut, F. E. Barnett and Wm. T. Gammon on places for Brother Eshbaugh to lecture. On motion a recess of one hour was taken for dinner, which was a very sumptuous one. The members and guests seemed to enjoy it very much. The Sisters of Davis Creek Grange furnished the repast. After dinner, the committee on places for Brother Eshbaugh to lecture, made the following report:

First lecture to be made Prairie Grange Hall; second lecture at Mock's school-house, in Freedom township; third lecture at Prairie Church; fourth lecture at Odessa; fifth lecture at Ferguson's school-house; sixth lecture at Wellington. Your committee would further recommend that the services of Brother G. B. DeBernard be secured as soon as possible, and that he be requested to spend a week or ten days in the county, with a view of reviving the grange work in the county.

Brother Armentraut offered the following resolutions, which were adopted:

Resolved: 1st, That we believe that a detection force can be found under the auspices of the State Grange.

Resolved: 2d, That we will use our united efforts to bring this matter before the State Grange at its next meeting.

Brother Gladish offered a resolution to have the State Grange meet biennially instead of annually.

The next meeting of the County Grange will be held with Prairie Grange, on the second Tuesday in January, 1882.

L. B. GORDON,
Corresponding Secretary.

"Life and Work of Garfield."
A memorial volume with above title, by the popular historian, JOHN CLARK RIDPATH, LL. D., is announced in press by Jones Brothers & Co., of Chicago. It will gratify our readers to know that a writer of Dr. Ridpath's acknowledged ability has undertaken this great biography, for it is not only a guarantee of faithful performance, but of a production of more than ordinary brilliancy and power. He will give us the work of a man who knows his abilities and possesses the rare faculty of using them to the best advantage; therefore we feel assured that this book will prove to be in striking contrast with the crude compilations so industriously advertised by small publishers, which are made up in great part from the matter in the "campaign lives" of 1880, that were not intended to be permanently valuable, but were written to answer a purpose only then present. Now the people of the country are looking for something entirely different—for a biography which analyses and asserts the qualities and characteristics of the great dead as examples to the living—for a permanent record of the man whose eminent services and tragic death endear his memory to every American. We are convinced that this work by Dr. Ridpath will prove to be just what is wanted.

Organs and Pianos.
A great opportunity is now offered our readers to buy pianos and organs at extremely low prices. Attention is called to the large advertisement of the Hon. Daniel F. Beatty, Mayor of Washington, New Jersey, which appears in this issue. An organ or piano is the most suitable holiday present, and we advise those who wish an instrument to order from Mr. Beatty. Read his advertisement carefully.

Of all the despicable and loathsome things found on this American soil, this aristocracy of wealth is the most superlative. This aristocracy of money—money stolen, two, nine times out of ten, from the hard hands of toil. This insipid and brainless aristocracy of wealth, that lightly talks about the "lower orders," forgetting that in almost every case their own fathers began with the sweepings of office, and where, very often their own children will end—Coffin.

It is worth remembering that nobody enjoys the nicest surroundings if in bad health. There are miserable people about to day with one foot in the grave, when a bottle of Parker's Ginger Tonic would do them more good than all the doctors and medicines they have ever tried. See adv.

Iroquois, the winner of the English Derby last May and the St. Leger, is a brown colt with a white stripe down the face, and white around the coronet of the left forefoot. He was foaled in 1878 at the Edenvalley stud of Aristides Welsh, at Chestnut Hill, Pa. Sire, imported Leanington, son of Faugh-a-Ballagh by Sir Hercules, out of a daughter of Pantaloon; dam Maggie B. B. by imported Australian; second dam, Madeline, by Boston; third dam, Magnolia, by imported Glencoe. He is a full brother to Harold. Last year, as a two-year old, he was sent to England by his owner, Mr. Pierre Lorillard, and in that form he ran a good race with Bal Gal in the July stakes, and demonstrated great speed in the Chesterfield stakes last year. This year he ran second to Peregrine in the Two Thousand stakes, and defeated Peregrine in the great Derby, being the first American horse to accomplish that feat. He won the Prince of Wales stakes, June 14, over the new Ascot course, about one mile and five furlongs, in 3:04, beating Geologist and Great Carle. In that race he carried nine pounds penalty for being a Derby winner. June 16, he took the St. James Palace stakes for three-year olds, beating Leon.

Thousands of women have been entirely cured of the most stubborn cases of female weakness by the use of Lydia E. Pinkham's Vegetable Compound. Send to Mrs. Lydia E. Pinkham, 233 Western Avenue, Lynn, Mass., for pamphlets.

"I notice that the girls in our tobacco factory have struck for higher wages, and the old man has bounced them. We must have discipline!"—Iroquois.

An eminent physician has said: "Muton ought universally be substituted for pork. It is more easily digested and may be regarded as a healthy meat." Some of the sheep raises of Texas should pay more attention to the raising of muttons. There is now a good market and this branch of the business should not be neglected.

Mr. Michael McCann, a well known and popular manufacturer of Syracuse, N. Y., writes: "I felt generally debilitated and my health failing me. I longed and prayed for an iron constitution, that I might be rid of the many annoyances of ill-health. But dyspepsia and urinary troubles, attended by nervous prostration, had gotten hold of me, and I felt my time had come. Nothing seemed to give me any permanent relief. Finally I happened to see an advertisement of Brown's Iron Bitters. 'Bless me,' says I, 'that's just the medicine for me precisely.' And so it was. By the powers of old Ireland, it has cured me of all my troubles and given me a constitution of iron."

The St. Louis Globe-Democrat says: Mr. Charles Reis, No. 1611 Second Carondelet avenue, this city, was cured by St. Jacob's Oil after sixteen years suffering with rheumatism.

Mr. Gladstone says: "The American Union has territory fitted to be the base of the largest continuous empire ever established by man."

The Shepherd.
Edited by R. M. Bell, of Brighton, Massachusetts, to whom all writers relating to this department should be addressed.

Sheep Premiums at the St. Louis Fair.
An exhibitor has the following to say in the Farmers' Home Journal, about a certain premium on sheep at the St. Louis Fair:

Let us now investigate the workings of the association a little in their mode of awarding premiums. Leaving them and the public to judge, I will give facts as brief and plain as possible, and ask if they can say that justice was done. What I am about to relate occurred in the sheep department—class C, long-wooled show—best flock of one ram and five of his lambs. Mr. C. F. Darnell, of Indianapolis, entered ram and five ewes, making as he says affidavit that they were as represented by him to the best of his belief and knowledge, just as other exhibitors were required to do. While the judge was examining his flock another exhibitor came in his pen and proclaimed in the presence of the judge, while in the very act of judging that flock, that they were not as Mr. Darnell represented. The judge asked Mr. Darnell if these ewes were the get of said ram. His answer was that his brother then in Indianapolis, had a written statement from Mr. Hodgson, of Canada, from whom he had bought the sheep, that they were lambs of that ram. The judge (who I will here state is a perfect gentleman, and no one can censure him in the least) reported the case to the superintendent of the sheep department, and he told Mr. Darnell that he would give him until 12 o'clock the next day to prove what he had asserted to be true, not even requiring the complaining exhibitor to make an affidavit to what he had asserted; but he put the burden of proof entirely upon Mr. Darnell, which was contrary to any protest I have ever heard of. In fact, there was no protest that Mr. Darnell's sheep were not what he had represented, but these were assertions of a contending exhibitor.

Mr. Darnell immediately telegraphed to his brother in Indianapolis, also to Mr. Hodgson, of Canada, asking for proof, receiving an answer from his brother that he had such a written statement from Mr. Hodgson. Mr. Darnell showed this dispatch to the superintendent, and he told him that that was not proof enough. Not yet getting an answer from Mr. Hodgson, and his limited time, 12 o'clock the next day, having come around, Mr. Darnell was left in the lurch. He was branded, as far as that association could do it, a falsifier. The next morning he received a dispatch from Mr. Hodgson stating that the ewes in controversy were the get of the ram. Mr. Darnell brought Mr. Hodgson's dispatch to me and asked my advice, stating that he disliked to be branded by the association as misrepresenting his stock. I told him I would take the dispatch to Mr. Charles L. Hunt, the director of the sheep department, and try and get him to rescind his order, which I did. Mr. Hunt coolly replied after reading Mr. Hodgson's telegram that it was too late; the time had expired. But after some argument as to the justice of the case, he consented for Mr. Darnell to enter a protest. I will here state that the judge told me that Mr. Darnell was entitled to the prize, and would have won it had it not been asserted that the sheep were not as represented.

I now candidly ask Mr. Hunt if he thinks he has done Mr. Darnell justice. If so, then I will say that his ruling as a director is contrary to any decisions I have ever known rendered at a fair. Mr. Darnell made his affidavit just as all the other exhibitors had done, and if any one doubted Mr. Darnell's statement it was his place to protest and prove that the sheep were not as represented. Yet Mr. Hunt required proof of Mr. Darnell, and after he brought it, which was not required of any other exhibitor, coolly replied, "it is too late." I would have Mr. Hunt and the public know that I am not any more interested in Mr. Darnell than I am in the gentleman who made the complaint. Both are friends and I have no interest in any way excepting to see justice done, and every exhibitor treated as he should be, according to the published rules of all fairs.

To this communication Mr. K. H. Allen, who, as expert, reported on the merits of long-wooled sheep, replies in the following letter to Col. C. L. Hunt, as follows:

LETTER OF K. H. ALLEN.
MR. CHAS. L. HUNT: Dear Sir—The gentleman that penned the article in the Farmers' Home Journal about western fairs, is a little mistaken in regard to the Darnell sheep entries. If any one is to blame in that transaction, it is myself and not you. I will state the facts as briefly as possible.

After my two days handling all the long-wooled, entered in their different classes, your clerk said that I was all through excepting one class viz: "The best flock of one ram and five of his get"—three entries. A. Strawn's, Sorby Brothers' and Mr. Darnell's. Now I wish to say that this premium was more than three times as much as any other premium in the Sheep Department; it also required the breeding of six sheep to be all of one family (i. e. one ram and five of his get) and not to be mixed up in two or three families, as is the case with other classes. I determined at once to move with extreme caution, and to be sure, if possible, that the six sheep entered were all of the same stock. The first sealed was Abner Strawn's; the next pen was the Sorby Brothers'. I then came

to Mr. Darnell's pen. His entry was the ram Grey Prince and five yearling ewes. I put the same questions to him that I did to the other gent. "Did you breed these sheep?" "No." "Who did?" "Mr. Hodgson of Canada." "Did you purchase them of him?" "No, my brother did." Are you sure that these five ewes are the get of this ram?" "Yes." "Have you a statement of breeding from their breeder?" "No, but my brother has." "Where is your brother?" "In Indianapolis." "If you wished to enter them as a flock and you didn't breed them or purchase them, why did you not your brother come or send a certified certificate of their breeding from their breeder?" "Brother's family are sick." At this juncture Abner Strawn came up the alley between the pens and asked Mr. Darnell when he purchased the other two ewes of Mr. Hodgson, telling him that he staid over night with Mr. Hodgson in the month of August and that Mr. Hodgson told him that he had sold Mr. Darnell three ewes, and that he (Mr. Darnell) hadn't any more, and that Mr. Strawn identified the three best ewes as being the ones Mr. H. had sold to be shipped to Mr. Darnell. I then asked Mr. Darnell when his brother brought the other two ewes, and received no definite answer. Mr. Strawn did not open the controversy neither did he speak to me in regard to Mr. Darnell's sheep, or come near Mr. Darnell's pen until I had ordered my assistants to take the number of their ear-labels, preparatory to referring the case to you. Mr. Strawn noted the part of a dignified gentleman in every respect, merely asking Mr. Darnell when they purchased the other two ewes.

On referring the matter to you, you said give them until to-morrow noon to bring satisfactory proof by telegram from Mr. Hodgson of their breeding. Mr. Darnell accepted the terms, said it was all right, they would have it. I made out the cards; Darnell stood first, Sorby Brothers second; Strawn third. You kept back the ribbon from all the long-wooled breeders from 4 o'clock Wednesday until 1 o'clock Thursday, instead of 12 o'clock, in order to do all parties justice. Of course the premium went to the Sorby Brothers, and you had fulfilled your part of the agreement, and how could you in justice take the premium from the Sorby brothers next day? I did not intend to question the honor of the Darnells. Their sheep were neither in the hands of the breeder nor the person that bought them of this breeder. The sheep were in the third person's hands without certificate of their breeding from their breeder. Mr. Darnell himself admitted that he ought to have had the certificate before he exhibited the sheep, and he said he would have it if he could not see that any one is to blame but themselves. The Darnells were treated fairly and squarely in every particular. Respectfully,
O'Fallon, Mo. K. H. ALLEN.

A Sheep Dairy.
Chattanooga, the very enterprising Tennessee city, has in its suburbs a monopoly, so far as this country and continent is concerned, in a sheep dairy, where an Austrian, in connection with men of means, has commenced the manufacture of schabaz—sheep cheese—a luxury far surpassing cow cheese in all good qualities and highly prized by those who know its merits. But think of the American dairy maid milking sheep! The operation is similar to that of ordinary cheese making, and the enterprise has been commenced with two hundred sheep, which number is to be increased to five hundred or a thousand. Hereafter we must consider the milking qualities of our sheep, as well as their productiveness in mutton and wool—the South.

Sheep Notes.
The decrease of sheep in Great Britain during the past two years foots up to 3,000,000 head.

In northern Colorado 1,900 sheep, out of a herd of over 2,000, died from the effects of eating a poisonous milk weed.

Las Animas (Colorado) Leader of September 30th, says: Kellogg & Son have contracted to sell about 2,000 head of sheep to J. D. Mitchell.

Caldwell (Kansas) Commercial says: Since our last report, Hassard Bros. have sold 1,200 sheep. Parties in want of sheep should hurry up.

Cimarron (N. H.) News and Press says: L. J. Reinhardt has purchased 3,000 sheep in San Miguel county, and will drive them to his home in Anthony, Kan.

Las Vegas Gazette says: Capt. J. G. Clancy, of Puerto de Luna, has brought seventy-nine Merino rams from Vermont for his ranch on the Pecos. The lot comprises the finest rams ever brought to this territory. He paid \$250 to \$300 a piece for the rams, and selected them with great care from the famous stock of Vermont, the register of which has been kept for the last seventy-five years.

Some idea of the immense flocks of sheep owned by "squatters" in New Zealand, may be inferred in the following, mentioned in a recent government Gazette, published at Canterbury, N. Z.: Robert Campbell has 326,000 head, Dalzell & Co. 208,000, George H. Moore 90,000, Clifford & Wood 80,000, Mr. Ketchum 80,000, Mr. McLean 50,000, Wm. Robinson 68,000, Sir Dillon Bell 85,000.

At the St. Louis Fair recently attended by the editor of the American Cattle Journal, the expert system of judging sheep was used. As an instance of the value of this method over the old way of "cornering" the judges, we observe that the report, by Mr. K. H. Allen, the expert in the medium wool class, gave the first prize as a case from the same animals, on their merits, that had been judged and competed in the Chicago and other shows against the most rigid inspection. The best breeders favor this kind of judging.—Rural Nebraska.

A great many California shepherds are in Texas, some of whom are already engaged in the business and others are prospecting with a view of engaging in it in the near future. It is the almost unanimous verdict of these practical men that Texas is a better sheep country than California—that sheep do better and are more profitable.

The sheep interests have suffered less from the drought this season than any other in Texas, which proves it to be the surest and best business in the state.—Texas Wool.

So in all the states and so it has always been, and always will be. It is a fact.

"Throw Physic to the Dogs, I'll None of It."
We do not feel like blaming Macbeth for this expression of disgust. Even nowadays most of the cathartics are great repulsive pills, enough to "turn one's stomach." Had Macbeth ever taken Dr. Pierce's "Purgative Pellets," he would not have uttered those words of contempt. By Druggists.

Howe Scales are guaranteed in every particular, to be the best made. Borden & Sons, General Agents, St. Louis, Mo.

The "famous prescription" of Dr. Pierce cures "female weakness" and kindred affections. By druggists.

An experienced man, who understands bottling peach, cherry, &c. Shall want his service about one month, and if both parties are satisfied, shall want him permanently. Apply with references to H. J. WEBER, Gardenville, St. Louis county, Mo.

